Research Notes

A New Genus and Species of Polychaete (Family Capitellidae) from Southern California

This addition to the thirty genera of Capitellidae (Hartman, 1947, 1959, 1965) is based upon specimens collected in a study of southern California sandy beaches (Patterson, 1974) funded by the Sea Grant Office of the Department of Commerce Grant #2-35227. The author wishes to express thanks for permission to use the material. Dr. Dale Straughan provided funds for the study. All specimens are deposited in collections of the Allan Hancock Foundation (AHF), University of Southern California.

Amastigos, n. gen.

Type species *Amastigos acutus*, n. sp.

Diagnosis.—Neuropodial and notopodial hooded hooks present in both thorax and abdomen; capillary setae entirely absent; prostomium followed by a short peristomium; thorax consisting of eight setigers with an abrupt transition from thorax to abdomen at setiger nine; no visible branchia or nephridial papillae; posterior end terminating in a short conical pygidium.

Amastigos is most closely related to *Bucherta* Rullier (1965) in lacking capillary setae in both thorax and abdomen. *Amastigos* differs from *Bucherta* in the abrupt and distinct change from the thorax to abdomen, lack of visible branchial structures or nephridial papillae, structure of the hood covering the setae, and general shape of the body.

Etymology.—The generic name derives from the lack of capillary setae.

Amastigos acutus, n. sp.

Figs. 1,2

Material.—Holotype, AHF Poly 1239; paratype, AHF Poly 1240; Hope Ranch, near Carpinteria, California, on sandy beach; 35 additional, small individuals.

Description.—Length of holotype 38.0 mm, maximum width 0.5 mm, total number of segments in holotype 131; color white in preservative; surface epithelium smooth except for segmental grooves which are more pronounced toward posterior end of animal; abrupt transition from thorax to abdomen at setiger nine marked by change from narrow thoracic segments to wider abdominal segments, an increase in number of setae per fascicle and increase in length of hooded hook shafts.

Thorax consisting of peristomium and eight setigers (Fig. 1a); prostomium acute, approximately two and one-half times long as wide; no obvious palpode or eyes present and nuchal slits not discernible on any specimen examined; two eyespots located beneath epithelium on opposite sides of body toward anterolateral margin of peristomium; thoracic setigers eight, first two indistinctly separated from peristomium and from each other, each three times longer and much broader than remaining, distinctly separated setigers; four hooded hooks (Fig. 2a, b) present in both notopodial and neuropodial fascicles of setiger 1; number of hooks

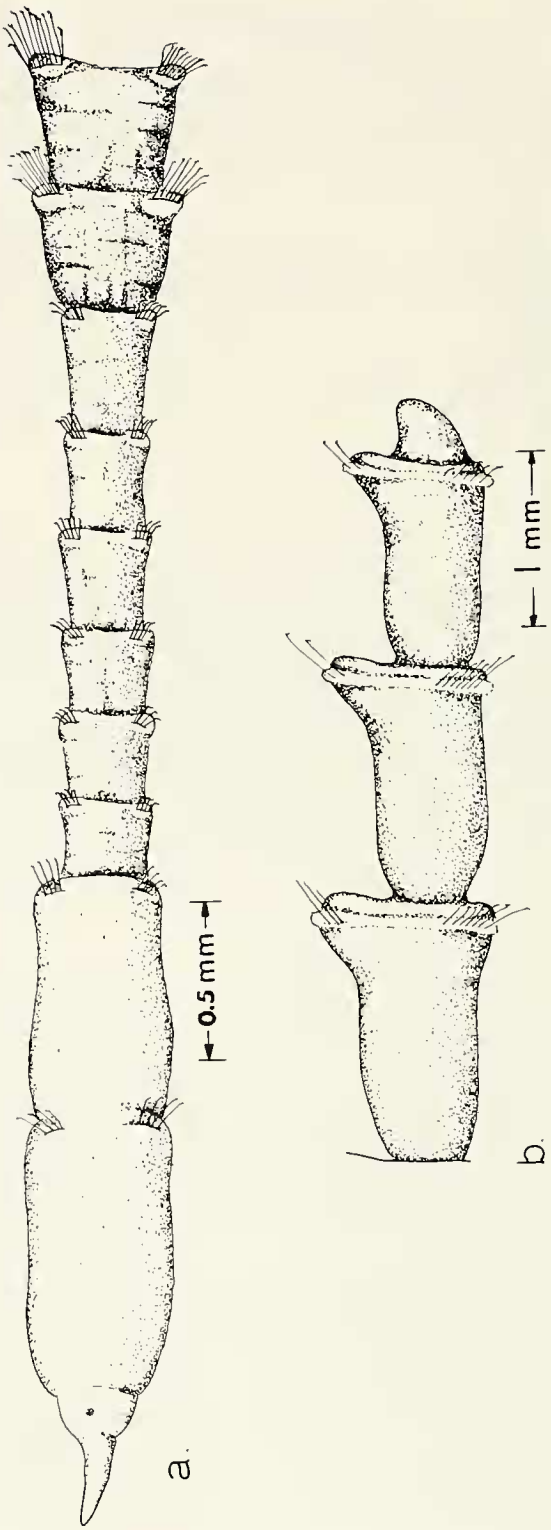

Fig. 1. *Amastigos acutus*, holotype AHF Poly 1239. a. Lateral view of thorax and first two abdominal setigers; b. Pygidium and last three abdominal setigers.

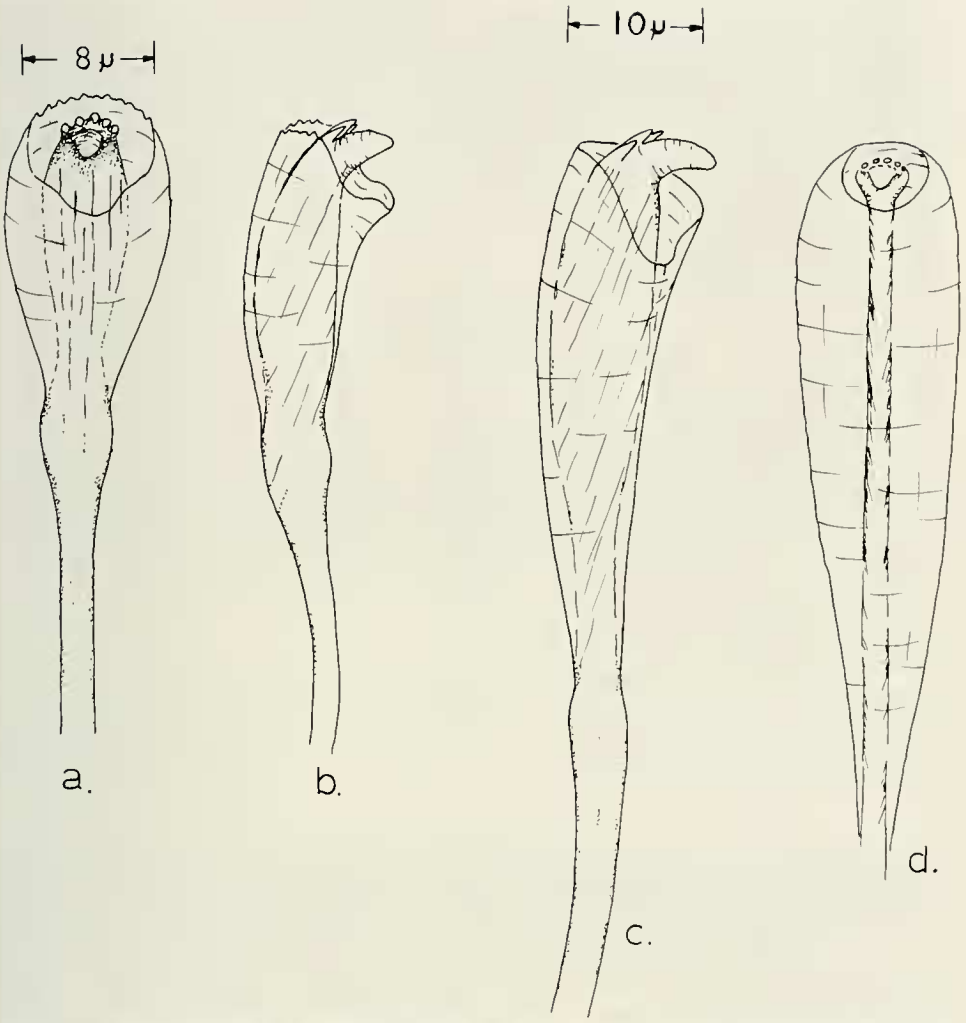

Fig. 2. *Amastigos acutus*, holotype AHF Poly 1239: a. Frontal view of notopodial hooded hook from setiger number 3; b. Lateral view of notopodial hooded hook from setiger number 3; c. Lateral view of neuropodial hooded hook from setiger number 34; d. Frontal view of notopodial hooded hook from setiger number 12.

increasing to six per fascicle by eighth thoracic setiger; setal fascicles marked by slightly raised ridge in thoracic setigers 3–8.

Abdomen consisting of 123 segments in holotype, terminating in a small conical pygidium with anal opening marked by slight dorsal depression; posterior abdominal segments about one and one-half length of anterior abdominal segments; ridges marking notosetae more pronounced in posterior abdominal setigers than anterior (Fig. 1b); branchia and nephridial papillae not observed; setae in form of hooded hooks with long shafts occurring 12 to 20 per fascicle in both notopodia and neuropodia (Fig. 2c, d); number of setae per fascicle decreasing posteriorly, but present in all segments up to pygidium.

Hooded hooks (Fig. 2a–d) long handled, terminating in a large fang surmounted by five smaller teeth in a single row; hood expanded with large opening in thoracic setae and abdominal neurosetae, with smaller opening in abdominal notosetae; notosetae differing from other hooks on body in being longer, thinner, with less indication of node on shaft; slight crenulation appearing at upper margin of hood in thoracic setae.

Etymology.—The specific name derives from the acutely pointed prostomium.

Distribution.—*Amastigos acutus* inhabits fine-grained, sandy beaches in southern California, intertidal regions.

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Response of *Cerithidea californica* (Haldeman) to Lowered Salinities and its Paleoecological Implications

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Cerithidea californica (Haldeman) is the most common mollusc inhabiting the intertidal mudflats in coastal lagoons of southern California and Mexico (MacLean, 1969). Hence this species is an important paleoecological indicator for interpreting the Holocene history of these lagoons. Several investigations have used this mollusc to designate intertidal marine depositional environments (Phleger and Ewing, 1962; MacDonald, 1969; Cromwell, 1975); however, little is known concerning the response of this organism to environmental changes.

Presently, the influence of civilization appears to cause some abnormal conditions to occur within the coastal lagoons of southern California. The construction of highways and railroads across the tidal marshes and near the mouths of the lagoons restricts flow between the ocean and the lagoon (Mudie et al., 1974). The resulting reduced tidal prism allows a temporary sand barrier to be built at the mouth which then completely stops tidal flow into the lagoon. During periods of high freshwater runoff, the freshwater may be impounded behind these lagoon mouth barriers, creating a fresh to brackish water condition. It is known that these conditions occur now, but there is only limited evidence that suggests these